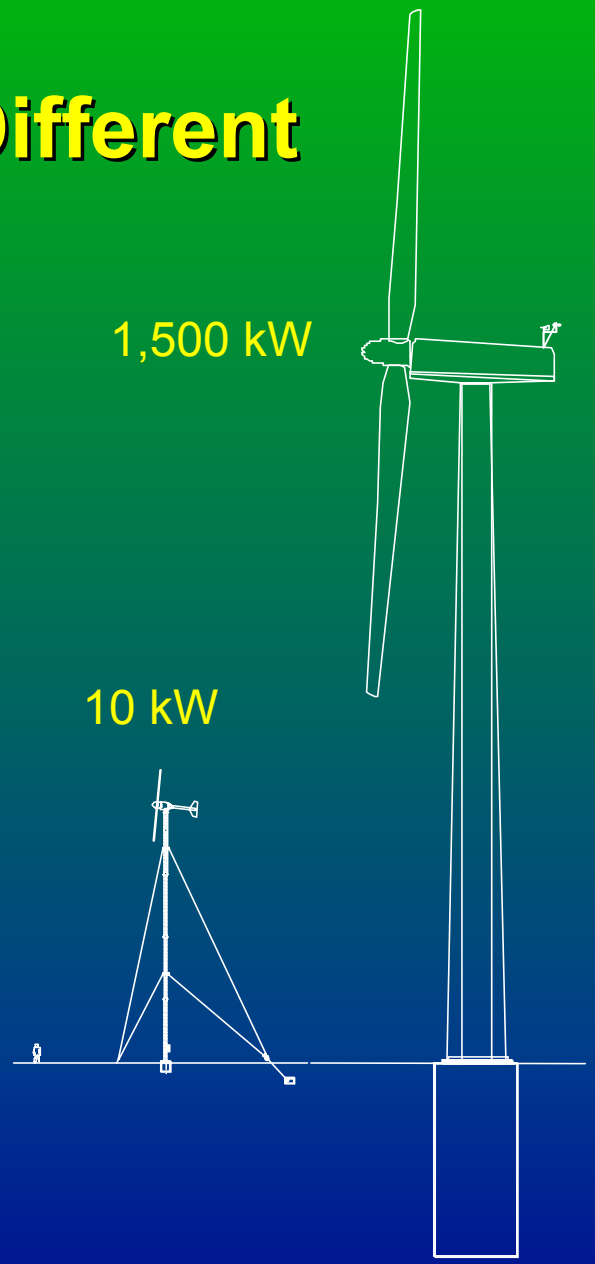
Small Wind Turbines Are Different

- Utility-Scale Wind Power
  600 - 1,800 kW wind turbines
  - Installed on wind farms, 10 – 300 MW
  - Professional maintenance crews
  - 13 mph (6 m/s) average wind speed
- Small Wind Power
  300 W - 250 kW wind turbines
  - Installed at individual homes, farms, businesses, schools, etc.
  - On the “customer side” of the meter, or off the utility grid entirely
  - High reliability, low maintenance
  - 9 mph (4 m/s) average wind speed



Green Power

- About 350 utilities in 32 states now offer “Green Power” to their customers, mostly wind power
- About 45% of US electricity customers have access to Green Power
- Additional 2.5¢/kWh (typical)
- Information on the Web: http://www.eren.doe.gov/greenpower/

Utility-Scale Wind Energy is Becoming a New "Cash Crop"

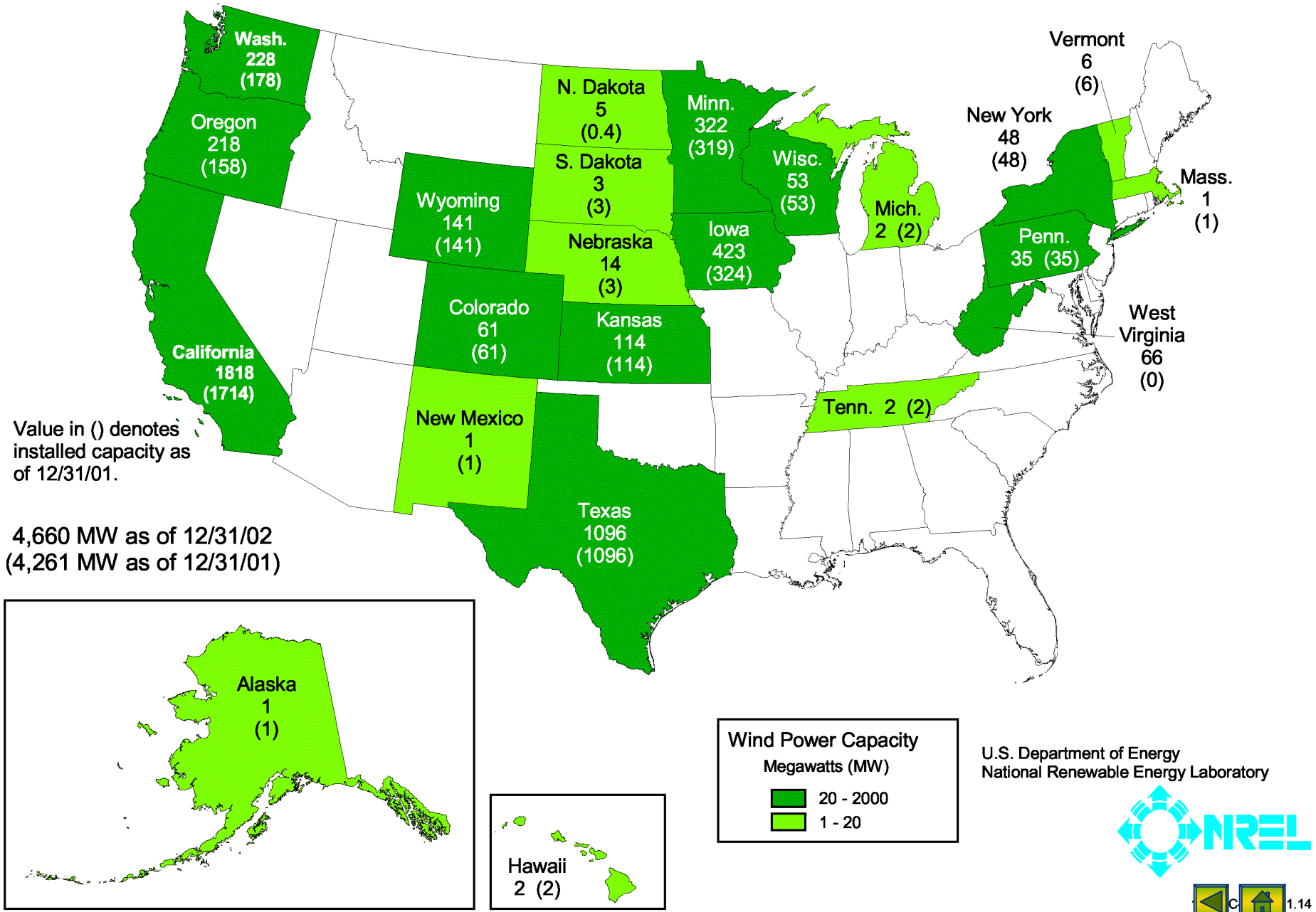
Farmers and ranchers are earning $2,500-4,000/year for each wind turbine on their land.

Key Factors for Wind Farm Development

- A good wind resource at 150-200 ft
- Proximity to a transmission line with excess carrying capacity
- Utility “Green Power” programs
- Policies that support wind power
  - Federal: production tax credit (through 2003); possible purchase mandates?
  - State: sales or property tax exemptions, purchase mandates, subsidies, streamlined permitting process, etc.

NREL

Current Installed Wind Power Capacity (MW)



Value in () denotes installed capacity as of 12/31/01.

4,660 MW as of 12/31/02
(4,261 MW as of 12/31/01)

U.S. Department of Energy
National Renewable Energy Laboratory